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THE LABOR EXCHANGE SYSTEM IN THE TEMBO

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ABSTRACT The author describes and analyze the labor exchange system of the Tembo, an agricultural people in eastern Zaire. The system consists of three basic rules: (1) oneday work should be exchanged with oneday work, and a monetary system is of no effect in the labor exchange system, (2) labor is exchanged between the same sex; (3) labor is exchanged by a dyadic contract between two individuals.

But these three rules alone are practically impossible, unless every member in the society has equal capacity of labor. The Tembo, therefore, have three modified systems of labor exchange to resolve some incongruity between the principles of labor exchange and inequality existing in the society: (1) "lukoo" system of offering labor as a gift; (2) "kwanza" system of paying back a feast instead of labor; (3) a system which works beyond the limitation of sex enabling deficient families to participate the labor exchange group. These three subsystems make the labor exchange system prevalent in the Tembo society.

INTRODUCTION

The Tembo are an agricultural people who live in forest of northeastern Zaire. Their agriculture is the shifting cultivation which can be characterized by its land rotation system and labor use. The dominant labor using system in Tembo's agriculture is called "likilimba" in the Tembo language. I shall describe examples of this unique system of labor using, and then analyze the mechanism of this system clarifying that "likilimba" system is one of the non-market economy systems.

The study of the Tembo began in 1974 and has been continued till the present (1982). Although there are some reports about the Tembo (Yoneyama, 1976, 1977; Akasaka, 1978, 1979; Kaji, 1978a, 1978b), none of them mentions about their subsistence background. I shall also cover this matter.

There are many studies of agricultural working groups in tropical Africa. But these studies focus their attentions on the labor as attribute to a chief (Richarse; 1939), or men-and-women relationship in the division of labor (Schlippe, 1956), or the working group for a beer party (Richarse, 1939; Schlippe, 1956). They do not consider that labor force in this agricultural society can be exchangeable with money but that laborforce can be only exchangeable by laborforce itself. I shall explain how the laborforce as being unexchangeable by money plays a role of the medium of exchange and how the society makes it possible. For this purpose I shall describe the process of the shifting cultivation and the land rotation system in Tembo's agriculture. The land rotation system is the most important for understanding the shifting cultivation in tropical Africa (Morgan and Pough, 1969; Manshard, 1974; Jean, 1975).

FIELD SURVEY

The Tembo people live in the western slope of the Kafuji mountains on the west side of Lake Kivu. The Tembo territory expands from tropical rain forest to mountain forest. The western part of the territory reaches 700 meters above the sea level. the eastern part reaches 2500 meters. I made the field research in Collectivité Buloho, which is one of the minimum administrative unit situated in the southern part of the territory bounding on the Shi territory.

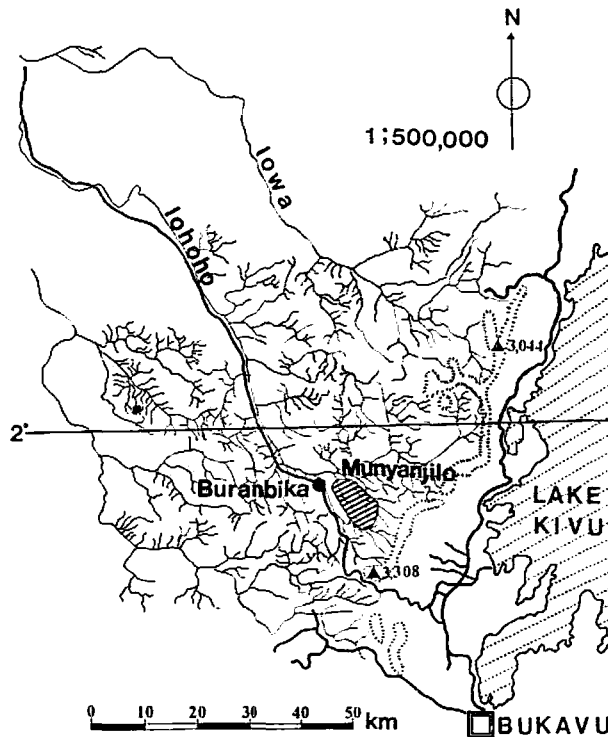


Fig. 1. The study area.

Politically, the Tembo people can be divided into five traditional groups (Akasaka, 1978). Each group has its own traditional chief called "mwami". Collectivité Buloho is ruled by a "mwami" who also takes a part of the local official of the government.

I stayed in a village called Munyanjilo in Buloho. The days I spent there totaled six months from November 1978 to February 1981. Munyanjilo is situated at the 1,460 meters above sea level. Their agriculture in Munyanjilo is a typical one of Tembo's agriculture. In the lowest area they plant dry rice; in the highest area, kidney beans and yams.

Munyanjilo like other Tembo villages is located on the ridge of mountains. This village is about 80 kilometers far from the regional capital, Bukavu. The nearest market place is Buranbika, to which a paved road leads from Bukavu. Buranbika is about 10 kilometers far in distance from Munyanjilo, and these two villages are connected by a path only one foot wide.

All houses in Munyanjilo stand in a two lines. A family unit is called "ngumu" in the Tembo, and each family owns two huts, one for sleeping and other for cooking. A "ngumu" consists of a man, his wives, and their children. In Munyanjilo, with its population of 134, there are 35 families. The patrilineal lineage called "luhu" counts 10 in the village. "Luhu" is the unit of land tenure, on the other hand, "ngumu" is the unit of food production, field managing and daily consumption.

THE TEMBO SYSTEM OF SHIFTING CULTIVATION

Food Crops

In Munyanjilo they plant 35 species of food crops (Table 1). These crops fall into two groups.

Table 1. Food crops in Munyanjilo.

No.	English Name	Scientific Name	Local Name
1	Cassava	<i>Manihot utilissima</i>	monbachu
2	Sweet Potato	<i>Ipomoea batatas</i>	Kachula
3	Yam	<i>Dioscorea</i> spp.	chilonga, mayanagua
4	Taro	<i>Colocasia antiquorum</i>	ngumngum
5	Yautia	<i>Xanthosoma sagittifolium</i>	chihunu
6	Potato	<i>Solanum tuberosum</i>	biasi
7	Maize	<i>Zea mays</i>	erondo
8	Sorghum	<i>Sorghum bicolor</i>	menba
9	Kidney Bean	<i>Phaseolus vulgaris</i>	bichii
10	Groundnut	<i>Arachis hypogaea</i>	karima
11	Pea	<i>Pisum sativum</i>	?
12	Soy Bean	<i>Glycine max</i>	soya
13	Onion	<i>Allium cepa</i>	matungulu
14	Tomato	<i>Lycopersicum esculentum</i>	nyanaya
15	White Flower Gourd	<i>Lagenaria siceraria</i>	kasha
16	Cushaw	<i>Cucurbita moshata</i>	matete
17	Indian Spinach	<i>Amaranthus inamoenus</i>	rengarenga
18	Egg Plant	<i>Solanum melongena</i>	mbowanya
19	Cabbage	<i>Brassica oleracea</i>	shu
20	Cone Pepper	<i>Capsicum annuum</i>	mikaya
21	Sugar Cane	<i>Saccharum officinarum</i>	chisheki
22	Banana	<i>Musa</i> spp.	mwenba, mhaba, chisanga
23	Papaya	<i>Carica papaya</i>	paipai
24	Orange	<i>Citrus sinensis</i>	echungu
25	Lemon	<i>Citrus limon</i>	endimo
26	Pineapple	<i>Ananas comosus</i>	dakare
27	Avocado	<i>Persea americana</i>	maperu
28	Passion Fruit	<i>Passiflora edulis</i>	mapurini
29	Coffee	<i>Coffea arabica</i>	kahawa
30	Oil Palm	<i>Elaeis guineensis</i>	bwanji
31	Raphia Palm	<i>Raphia</i> spp.	bubondo
32	Turmeric	<i>Curcuma longa</i>	kinzani
33	Chinchona	<i>Chinchona</i> spp.	kenkina
34	Tobacco	<i>Nicotiana tabacum</i>	etaba
35	Hemp	<i>Cannabis sativa</i>	bangi

the dominant and the minor. The dominant crops are maize, cassava, sorghum, kidney bean and ground nut which are planted in almost every field. The other 30 minor species are not planted in ordinary fields. Such crops as tobacco, potato and cabbage are planted in certain corners of the fields, and the others are scattered over the fields. I found two or three papaya and orange trees in the field. I also found all the crops in the surrounding area of huts, but no kitchen garden is formed in the village site.

Field Types

The Tembo classify their fields in two major categories. The first category is "longa", which means the field of banana trees about 20 to 30 meters wide surrounding the residential area. The second category is called "ehowa" which means all the other fields than banana fields. "Ehowa" consists of five sub-categories: "mbaka", "miyaka", "chibuba", "mtendo" and "chitokolo". These five sub-categories correspond to the different stages of fields in the land rotation system of Tembo's shifting cultivation.

Land Rotation

The first stage of the land rotation is called "mbaka", which means a new field opened af-

ter felling the forest. "Mbaka" is the most fertile field where they plant cushaws and gourds together with maizes and cassavas. After the harvest of cushaws, gourds and maizes, they plant kidney beans in the field of cassavas.

After the harvest of kidney beans, only cassavas remain in the field for two years. This stage of field is called "chibuba".

The third stage of field after harvesting cassavas is called "mtendo". At this stage all the crops have already been harvested, and the field is left free in fallow. The field of this stage does not look like field but bush. In the first year of this stage, the field is covered with short grass such as spear grass (*Inperoto cylindrico*). After a few years it gets covered with a longer one such as elephant grass (*Pennisetum purpureum*). But the Tembo include "mtendo" in the category of "ehowa".

After three to five years of bush fallow they open the field again. This stage of field is called "miyaka", in which all kinds of the dominant crops are planted. After the harvest of ground nuts, maizes, sorghums and kidney beans, there remain only cassavas in the field. "Miyaka" as well as "mbaka" changes into "chibuba", and then into "mtendo".

The last stage of the land rotation is called "chitokolo", which comes after two or three-times repeats of the rotation from "miyaka" to "mtendo". By this last stage, the soil loses fertility; therefore they intend to fallow it for a certain period. After five to ten years, the bush of "mtendo" grow into a shrubbery, and then to a forest. In Munyanjilo I saw many old "chitokolo" which were covered with tall trees looking like a real forest. "Chitokolo" comes from the word "ntokolo" which means a fertile place. If they do not open "chitokolo", it remains as a forest. When they open it, the first stage of field, "mbaka" starts again.

In this manner all the newly opened fields follow the stages in the order of "mbaka", "chibuba", "mtendo" and "chitokolo". It is concluded that Tembo's land rotation system is the combination of two kinds of rotation. One is the short-term rotation from "mbaka" or "miyaka" to "mtendo". The round takes about five to seven years. The other is the long-term rotation from "mbaka" to "chitokolo". This round takes about twenty years. The long-term rotation includes two or three short-term rotations. In other words, the system consists of the grass fallow system (short-term rotation) and the wood fallow system (long-term rotation).

SYSTEM OF THE FIELD WORK

In Tembo territory they have two seasons in a year. The dry season begins in May and ends in August. The rainy season begins in September and ends in April. The amount of rainfall is showed in Figure 2.

The Tembo plant crops two times a year according to the seasonal cycle. In September they sow seeds for the rainy season; in March they sow one more time for the dry season. But neither the process of field work nor the kinds of crops differ in the two seasons. I shall describe the field works during the rainy season.

The first field work is to open the field. In each season every man decides to open he will cultivate. He can choose any place for his field in the territory of his lineage, unless somebody wants to use the same place. When he decides the place he goes to his "enanu", the lineage chief, who is the formal land owner of the lineage. In the lineage congress the "enanu" coordinates where each member open his field. And then he gives each family the permission to open the place for the year.

Cutting forest begins in the dry season. This work belongs to men and generally it is done by the user of the field himself, so it takes as many as thirty to fifty days. On the other hand the clearing the bush fallow is carried out by the working group of about twenty persons, namely, "likilimba". They finish clearing the field in one day.

They burn the field several weeks after the clearing when the stumps, logs and trunks in the

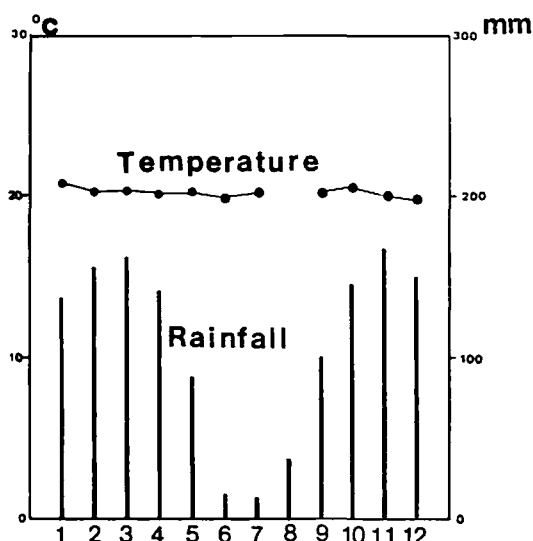


Fig. 2. The amount of rainfall in Bukavu.

field have dried up. They do not make a fire arresting zone around the field, but take heed of the direction of wind. A few men or women carry out this task. The fire burns for three or four hours. If they find many sticks and logs to remain unburnt, they pile them up and set them on fire once again.

After the ash fixes on the ground, cultivation begins. The cultivation consists of three kinds of works. The first work is to till the field using a hoe with an iron tip. They mix the soil with the ash. They call this work "kuchika". This work belongs to men and is done by the individual field owner.

The second work is to clean the field with a long forked stick. They call this work "kuhahula". The third work is the soil preparation with a hoe. They call this work as "kubuulula". The work of "kuhahula" and "kubuulula" is finished on the same day of sowing by men on the basis of the labor exchange system.

Sowing begins in the first week of the rainy season. Ordinarily we can see a large working group sowing the seeds in the field in the beginning of September. The sowing of maizes and ground nuts are done by women. With the aid of the large working group it takes only one day to finish a field. At the same time the owner sows seeds of sorghum by himself.

Planting of cassava starts after one week from sowing of maizes and ground nuts without the labor exchange.

From October to November weeding becomes the main field work which can be done by both men and women. It is not done by the large working group but by family members. Weeding requires so much labor that they can weed the fields only once or twice by the harvest time.

The harvest begins in November and continues until March. Maizes are the first harvest of all and ground nuts are the second. Ground nuts are harvested within one day because a large working group is formed like the sowing time. The harvest of cassava begins after more than one year from the planting. There is no harvest season for cassava. They go to dig the roots of cassava whenever their family need some. Generally they dig cassava twice a week. Harvesting of the other crops does not require much labor.

The process of field work in the rainy season is as the one in the dry season, except that the

finish "kubuulula". "A"'s wife distributes the seeds of ground nuts to each member of the working group. Then they stand in a line on the lower side of the field with intervals of two or three meters.

Each digs a hole in the ground with the small knife, and puts a seed in it. When she pulls out the knife from the ground, soil covers the seed. She sows five or six seeds along a two-meter line. Finishing the first line, she climbs one step to the next line on the slope and repeats the same thing.

The sowing women form a line gradually climbing up the field, and sometimes the line moves more rapidly and becomes a zigzag. As they sing in chorus, their sowing motions brisk up.

When they reach the top of the field, sowing ground nuts over. They take a rest for about thirty minutes on the side of the field, and then they line up again to sow maizes this time. Each makes a hole and puts two or three seeds in it. The interval between holes is two meters. The line of women move down the field more rapidly than the time they sowed ground nuts. When the line reaches at the lowest end, the sowing of maizes finishes.

After the work, all the members eat boiled banana and drink banana beer together. This humble feast is not the reward for the work, but it is given very time after they worked in "likilimba". They worked for four hours on that day.

By help of "likilimba", "A"'s field is sowed with maizes and ground nuts in one day. "A"'s wife must pay back one day's labor to each participant. She owes a debt of nineteen days' labor of sowing in that season. In this way every woman works in various sowing groups, the members of which are different each time. She must pay back labor by participating sowing groups of those whom she owes labor. Thus she must work of sowing for twenty days in the season.

The following is the relationship of the members in the "likilimba" group described above. Eighteen of the nineteen helpers live in the same village and one comes from the next village. These twenty people, nineteen helpers and "A"'s wife, belong to six different lineage. Only three women belong to the same lineage as "A". From the biggest lineage in the village eight women participated. I cannot find any special relation between the lineage and "likilimba" members. I can only point out that the members are restricted to the neighbors in the same village.

The second example is the standard "likilimba", which consists of a few members. They form this kind of "likilimba" for planting and harvesting of cassava as well as weeding and cultivating the fields.

(Example 2) The plant of cassava in the field of a person of "B".

The wife of "B", the wife of "C" and "D", an unmarried woman, go to plant cassava in "B"'s field. There are maizes grown up to sixty centimeters long and ground nuts about twenty centimeters long. First, the three women cut the cassava sticks into pieces fifteen centimeters long. Then they make two holes closing together with a small knife. They make a stick lay down on the bottom of a hole and cover it with soil. They plant 1.6 pieces in one square meter on the average. They work together for five hours chatting all the time. After this work they do not have any drink and food unlike the women did in Example 1. In this case the wife of "B" owes the debt of one-day work to the wife of "C" and "D". But she can pay back the labor in any kinds of work. And these three women belong to the same lineage. Especially the wife of "C" is a "B"'s sister. Like this case, members of a small "likilimba" have closer relationship than those of a large "likilimba". They exchange labor many times in one season. It is likely that this "likilimba" is formed not only for the necessity but for the pleasure of working together.

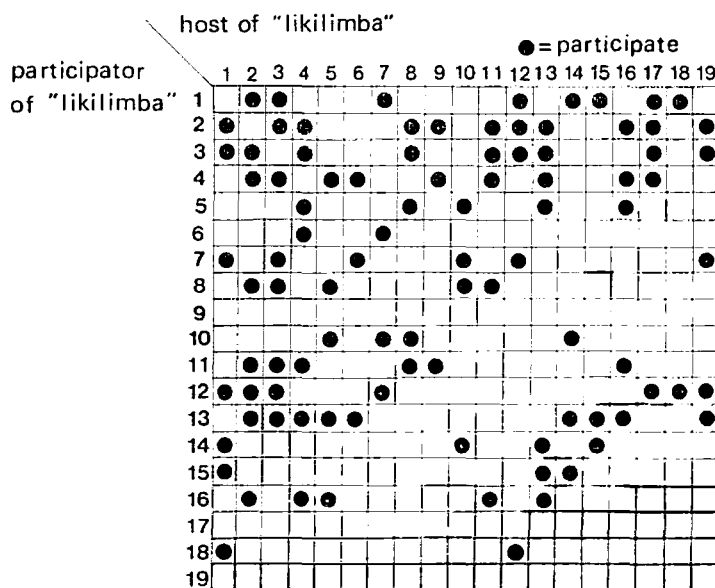


Fig. 4. Labor exchange in "Lukoo" system.

"Lukoo" System

I listed up nineteen men living in Munyanjilo and examined their labor exchange relationship in one season. The result is shown in Figure 4. Some examples show unbalanced labor exchange: Note the relationship between No. 17 and Nos. 1, 2, 3, 4, 12, and that between No. 19 and Nos. 2, 3, 7, 12, 13. Nos. 17 and 19 are always helped by the others and do not pay back the debt of labor. In fact, both Nos. 17 and 19 are old men without power or property. The gift of labor to these people is institutionalized as "lukoo" system.

"Kwanza" System

The other variation of working group system is "kwanza" system.

(Example 3) The working group of clearing the field of "E".

This field is at the stage of "mtendo". The western part of this field is laid aside since 1975 and the eastern half is laid aside since 1977. The field is covered with elephant grass of three to five meters tall.

Seventeen men get together in the front of "E"'s house at 6:00 a.m. Each of them carries a stick with two meters long and a hatchet or a reaping hook. When they come to the field, they are divided into four groups, each of which consists of four or five members. The first group starts to cut the bush at a certain levels of the slope, moving downward to the lowest line of the field. The second group starts cutting at the level five meters higher from where the first group started. The third and the fourth group work in the same way. Thus these four groups make four lines mowing the field. They change places ten or eleven times, and after seven hours they cut all the bush in the field. When they come back to the village after finishing the work, "E" invites all the members of his "kwanza" to a feast in which he serves meat of his goat and one hundred liters of banana beer. Specially for this feast he killed a goat and bought beer.

In the "kwanza" system the user of a field does not owe a debt of labor to the members but

he must treat them to enough meat and beer. The participants welcome this system because of rare chances to eat and drink enough meat and beer. But this system can be used only by rich people who has enough money to buy such amounts of beer and goats. So, this system is not recognized in the women's "likilimba". On the contrary for rich people this system make it possible to use others' labor without working themselves for others. As a result the rich can expand their field beyond their ability.

This system of working organization can be observed widely in tropical Africa. Schlippe (1956) and Richards (1939) also reported this system as a working group for a "beer party".

"Likilimba" System in Different Sexes

As a rule the members of a "likilimba" are of the same sex. However, I find a variation of "likilimba" in which a man and a woman make a contract.

(Example 4) "F", a married woman, whose husband works in another town nearly for six months.

"F" wants to open a new field this season but she cannot carry out all the field work by herself. Then she makes a contract of "likilimba" with "G", who is an unmarried young man with his own fields. "G" contracts for clearing the field of "F". He arranges a group for cutting the bush according to the system of the standard "likilimba" of male. On the other hand, "F" contracts for sowing the field of "G", also using the system of "likilimba" of female. In this way labor is exchangeable between different sexes.

DISCUSSION

"Likilimba" is the system of labor using in Tembo's village life. They do not use others' labor without using the system of "likilimba". Even when someone wants to employ villagers he does not pay money to them.

There are the three basic principles in the "likilimba" system. The first principle is that one day work should be exchanged with one day work.

The second principle is that each individual has his/her own network for labor exchange which is based on the dyadic contract between two individuals concerned. Families and lineages have nothing to do with this dyadic contract.

The third principle is that the members of a "likilimba" are of the same sex in general. The reason for this is that most field works are classified into either men's work or women's work. According to the second and the third principles, each man or woman has his/her own network for "likilimba". So the network of a husband and that of his wife are completely irrelevant.

There are four types of "likilimba" in the Tembo.

The first one is the standard type which is called merely "likilimba". In this type the principles mentioned above are applied completely. The lender and the borrower of labor do not draw up a contract but just keep in mind who the borrower is and how many days' work he or she owes. The borrower must pay back one-day work to the lender in the near future. We can recognize this type of "likilimba" as a labor exchange system in an exact sense.

The second type is called "lukoo", which is the unilateral labor exchange (we can define this system as a gift of labor). The presenters of labor are strong young people, while the presentees are weak old people in the same village. They think "lukoo" is one of the "likilimba" system but the act of the sympathy to the old members of the same village.

The third type is called "kwanza", which is like the working group for a beer party. The participants of this type have a feast after the work. The one who called for the help of "kwanza"

must prepare meat of goats and liters of banana beer instead of owing them the debt of labor. It is possible to think that in this case labor is exchanged with meat and beer.

I consider that the last two types of "likilimba" are the modifications of the standard type corresponding to the Tembo social system. For the principles of the standard "likilimba" cannot be accomplished in the Tembo society where some sorts of inequality exist. Concerning the labor utilization, three types of inequality are recognizable in the Tembo society.

First, an obvious inequality exists between strong young people and weak old people. According to a strict give-and-take principle, when a man becomes too old to participate a working group, he would have to give up managing his fields. In such a situation as this "lukoo" system makes it possible even for the old man to maintain his fields.

Second, a problem arises from the polygamy system. A man who has plural wives must open the fields of as much numbers as his wives in each season. The women's work is done by each wife, but the men's work must be conducted by himself. If he does so, he must work two or three times as much as ordinary people (actually it is impossible). "Kwanza" system resolve this difficulty. By the aid of this system a man who has plural wives can get others' labor without returning his own labor. He can expand his fields beyond his ability by treating the workers to meat and beer.

The last, an inequality also exists between a complete family and a deficient family. Members of a deficient family such as widows, widowers and unmarried adult men with their own fields would not be able to accomplish all the field works, because there is the sexual division of labor. "Likilimba" ties between men and women resolve this problem. Owing to this system a man can be helped by a working group of women or a woman can be helped by a working group of men.

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